TEMPORARY ROCK SEDIMENT DAM TYPE B 1634.02

A Temporary Rock Sediment Dam Type B (TRSD-B) is a small rock dam structure with a weir outlet and a built-in sediment basin. Temporary rock sediment dams type B are used at the outlet of drainage ways to detain sediment laden waters and allow sediment particles to settle prior to the effluent being discharged into streams or surrounding properties. The TRSD-B is composed of an excavated basin and a class B rock dam faced with No. 57 washed stone.

AREAS OF USE:

- At outlets of temporary diversions, temporary silt ditches, channels, temporary slope drains, at drainage pipe outlets or other runoff conveyance outlets.
- Should be located in areas where access can be maintained for regular maintenance.
- Locations where runoff is leaving the site.
- Existing small natural drainage turnouts.

DESIGN CRITERIA:

- Drainage area shall not exceed 5 acres.
- Location should be accessible for maintenance for life of the dam.
- Volume should be designed for 3600 cubic feet per acre of disturbance.
- Surface area should be designed to provide a surface area of 435 square feet per cfs of the Q_{10} peak inflow.
- Basin length to width ratio should be at least 2:1, but not exceed 6:1.
- Inflow to basin should be located at farthest point from release point to prevent short-circuiting of flow path and reduced settling efficiency.
- Minimum of 3 porous baffles should be constructed within the TRSD-B.
- Minimum depth 3.5 feet with 1.5 feet excavated below grade.
- Basin side slopes should 2:1 or flatter.
- Stone spillway height should be a minimum of 1.75 feet for sediment storage and a maximum of 3.5 feet above grade.
- Weir section should be designed to pass the peak discharge of the design storm. A maximum flow of depth of 6 inches, minimum freeboard of 1 foot and a maximum side slopes of 2:1 are recommended.

Drainage Area (acres)	Weir Length (ft)
1	4.0
2	6.0
3	8.0
4	10.0
5	12.0

Table 6.60a Erosion and Sediment Control Planning and Design Manual, NCDENR

CONSTRUCTION SPECIFICATIONS:

- Sediment control stone shall be faced on the structural stone in the direction of flow at a minimum thickness of 12 inches.

- Rock dam should have minimum top thickness of 5 feet with 2:1 slopes.
- Rock splash pad shall extend a minimum of 8 feet past the dam with a 2-foot minimum depth.
- Stone dam shall be a maximum of 5 feet above grade.
- Fill material/freeboard should be compacted for embankment of basins.
- Install 3 Coir Fiber Baffles in the TRSD-B, with a spacing of ¼ the basin length.

MATERIAL SPECIFICATIONS:

- Structural stone shall be class B stone that meets the requirements of Section 1042 of the Standard Specifications for Stone for Erosion Control, Class B.
- Sediment control stone shall be #5 or #57 stone, which meets the requirements of Section 1005 of the Standard Specifications for these stone sizes.
- Coir Fiber Baffles shall meet the requirements of the Special Provision.

PAYMENT:

- Installation of measure:

Stone for Erosion Control Class B	Ton
Sediment Control Stone	Ton
Coir Fiber Baffle	Linear Foot

- Silt cleanout of device:

Silt Excavation	Cubic Yard

MAINTENANCE:

- Inspect the TRSD-B on a regular basis and after each significant rainfall event.
- Remove accumulated sediment when the measure reaches half full.
- As dam becomes clogged with sediment, replace sediment control stone when runoff no longer passes through it.
- Remove accumulated debris from rock dam.
- Maintain weir section of dam when damaged.

TYPICAL PROBLEMS:

- Silt accumulations not removed in a timely manner.
- Poorly constructed rock weir.
- Stone is not replaced/maintained as sediment accumulates in it reducing porosity.
- Stone dam is not properly tied into embankment of basin.
- Structure is not rebuilt when damaged by storms, equipment, etc.